DOCUMENT RESUME

ED 282 303 EA 019 342

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TITLE School Closings.
INSTITUTION Association of School Business Officials International, Reston, VA.
PUB DATE 86
NOTE 24p.; Chapter 22 of "Principles of School Business Management" (EA 019 320).
PUB TYPE Guides - Classroom Use - Materials (For Learner) (051) -- Information Analyses (070)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Administrator Role; *Declining Enrollment; Educational Facilities Planning; Elementary Secondary Education; Enrollment Projections; Reduction in Force; Retrenchment; School Business Officials; *School Closing

ABSTRACT

This chapter of "Principles of School Business Management" looks at the role of the school business official in an era of declining enrollments. Following an introductory review of national enrollment trends, the chapter discusses the use of the cohort survival technique for enrollment projection. The focus then shifts to the impact of enrollment decline. The relationships between enrollment decline and teacher employment needs (complicated by the requirements of special education and other special needs programs) are treated first; the second major area of impact is in the demand for school facilities. Planning for optimal facility utilization in different types and sizes of school districts is examined. The chapter concludes by considering school closing as an option for responding to enrollment decline. Maintaining adequate plans and projections at the individual school level, establishing school board policy, obtaining and analyzing relevant data, generating community support, and determining how to use or dispose of closed facilities are the major factors addressed. The school business administrator's role in providing advice, enrollment information, and financial data is discussed in the summary. Several tables and figures are provided, and 9 relevant sources are cited. (PGD)

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22
School Closings

R. Craig Wood and Wayne M. Worner

School business administrators will face problems brought about by declining enrollments throughout the next decade. The problems will be exacerbated by the increasing reluctance of the public to continue funding education at current levels. Despite a decline in the number of students, the aggregate costs for education have not declined. While the aspiring school business administrator will find that much has been written on costs and the economics of scale related to the growth of public education, much less is available that describes planning activities for shrinkage or retrenchment.

Throughout the 1980s and perhaps beyond, public schools as a whole will serve a declining population. These demographic trends will bring about different, and in many circumstances, more complex problems for school business administrators. Over the next decade, greater numbers of students will be identified as being handicapped with special educational needs. Projections also indicate that a higher percentage of the overall school age population will be economically deprived, non-English speaking students. In addition to higher costs associated with the need for specialized services are the traditional cost increases over which school districts have little control. These include higher expenditures in the areas of utilities, energy consumption, construction, personnel (due to staff's moving higher on the salary schedule), salary and benefit demands fueled by inflation, additional new and expensive mandated programs and services with little or no funding provided and more intensive and expensive special educational programs. Combined with declining tax bases, deteriorating public support for public education and a society in which fewer than one fourth of the taxpaying adults have children enrolled in the public elementary and secondary schools, the challenges will be awesome.

Historically, the training of school business administrators has focused predominately on the top-side, i.e., the problems of expansion with growing pupil populations. In the ten year period from 1985-95, the typical school district will face a different set of problems. The skills needed by the school business administrator in the next decade will be those which deal with the down-side of management, i.e. declining numbers of students, increased mandates and regulation and declining resources.

Some claim that the focus on managing decline is misplaced and too negative rather, they suggest that managing and directing change ought to be the focus. "To cope effectively with decline, we have to think of it other than as shrinkage and empty schools. We must view it as a neutral, descriptive term used to indicate a direction of change."[1]

Whether the perspective is managing change, managing decline and retrenchment or simply cutting costs, certain activities and functions must be carried out within the school district to facilitate sound management. Precisely who will be responsible for these activities is a function of the size and administrative configu

ration of the school district, the political significance of the decisions and other related factors. Suffice it to say, the administrator responsible for business and fiscal affairs in any school district will play a major role in all matters associated with declining enrollment. That role may be directing, coordinating or supporting, but it will be significant.

Projecting Enrollment

Examination of current enrollment data and future projections reveals only a steady decline. Table 22:1 illustrates the decline during the rest of this decade, and Table 22:2 illustrates the history and projections for enrollments of the school-aged population in the United States through 1986.

Table 22:1 Population by Age Cohorts 1970, 1979, 1985 and 1989 (Numbers in Thousands)

	Population				Percent Distribution			
Age Cohort	1970	1979	1985	1989	1970	1979	1985	1989
Under 5 yrs.	17,163	15,649	18,803	19,431	8.4	7.1	8.1	8.1
5-17 yrs.	52,229	46,923	43,490	44,712	25.7	21.3	18.7	18.5
18-44 yrs.	72,815	89,985	99,089	102,279	35.7	40.6	42.5	42.4
45-64 yrs.	41,857	43,909	44,194	45,686	20.5	19.9	19.0	18.9
65 & older	19,972	24,584	27,305	29,356	9.8	11.2	11.7	12.1
Total	204,335	220,584	232,880	241,463				

Sources: U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 870, "Estimates of the Population of the United States by Age, Race, and Sex, 1976 to 1979." Washington, D.C.: U.S. Government Printing Office, 1980, for 1970 and 1979 figures; U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 704, "Populations of the Population of the U.S.: 1977 to 2050." Washington, D.C.: U.S. Government Printing Office, 1977, p. 45 for 1985 figures and p. 49 for 1989 figures.

Table 22:2 Actual and Projected School Age (5-17) Enrollments

Reported	Public School Enrollment	Projected	Public School Enrollment
1970	45,909,000	1979	42,600,000
1971	46,081,000	1980	41,094,000
1972	45,744,000	1981	40,387,000
1973	45,429,000	1982	39,009,000
1974	45,053,000	1983	39,528,000
1975	44,791,000	1984	39,546,000
1976	44,335,000	1985	39,794,000
1977	43,687,000	1986	40,244,000
1978	42,840,000		

Sources: Projections of Educational Statistics to 1986-87, National Center for Education Statistics, 1970-79, and Education in the United States: Statistical Highlights through 1979-80.

The tables indicate that while the decline will not be distributed evenly across the states or within a state, it is nevertheless a reality. Public school enrollments by state over the past decade have varied widely. States in the sunbelt generally have shown either growth or small decline while those in the Midwest and Northeast have declined significantly as reflected in Table 22:3.

Table 22:3 Public School Enrollment Changes 1971-1979

Increased	Decreased 0%-5%	Decreased 5%-9.9%	Decreased 10%-14%	Decreased 15% or more
Alaska	Arkansas	Alabama	California	Connecticut
Arizona	Colorado	Hawaii	Illinois	Delaware
Florida	Georgia	Kentucky	Indiana	D.C.
Idaho	New Mexico	Louisiana	Massachusetts	Iowa
Nevada	North Carolina	Maine	Minnesota	Kansas
New Hampshire	Oregon	Mississippi	Missouri	Maryland
Texas	South Carolina	Oklahoma	Montana	Michigan
Utah	Tennessee	Vermont	Nebraska	New York
Wyoming	Virginia	Washington	New Jersey	North Dakota
	West Virginia		Ohio	Pennsylvania
			Wisconsin	Rhode Island
				South Dakota

Source: Adapted from — *Declining Enrollment – Closing Schools*, AASA Critical Issues Report, American Associ tion of School Administrators, Arlington, Virginia 1981, p. 12.

The school business administrator is obviously most concerned with enrollmer fluctuations within a single school district. The task is to predict and analyze th impact of the projected change in enrollment on local school operations. To do s the planner must confront two major demographic questions, how many childre will be born and where will they live?

A great amount of information has been published that forecasts future popul tion trends in our society. This information is used by school planners throughou the nation. For the school business administrator responsible for planning, a important concern is forecasting with a high degree of accuracy future enrollmer in the local district. The key is to monitor all available data. Many school distric have been disappointed to learn that enrollment projections are inaccurate beyond few years. Thus, the school business administrator should strive for accuracy developing population projections. Whenever value judgments are necessary, conservative approach is recommended. Future enrollment projections are gene ally made with the assumption that current economic and sociological conditior within the school district will not change during the life of the data. This bas assumption must be reexamined on a periodic basis.[2]

Clearly, future economic and social events will influence overall school enrol ment. The perceived quality of the neighborhood's public schools, the availabili and price of energy and gasoline, the price of housing and building sites, zonir restrictions, factory openings and closings, as well as the perceived quality of th local school district will all affect school enrollment. It should be noted also that a the variables are not reflected in any projections. By design, data concerning hou ing permits are not used because of their volatile nature and their inherent unrel ability as an enrollment correlate. All projections must be based on data reason bly applicable to a local school district.

Cohort Survival Technique

In making enrollment projections for a local school district, a procedure know as the cohort survival technique is most commonly used. This procedure uses pa and current enrollment data to determine the percentage of students who advance

to succeeding grades. Estimates of kindergarten enrollments are based on live birth data. Ratios for projections are calculated to determine similar percentages of advancement. Enrollment estimates are based on actual students as opposed to estimates based on historical trends.

Table 22:4 presents a projection of kindergarten and first grade enrollments based on live births. Six years of data (1970-75) are illustrated to calculate kindergarten ratios that are then applied to reports of live births for years 1976-80. Children born in these years (1976-80) begin enrollment from 1981 through 1985.

Table 22:4 Projection of Kindergarten and First Grade Enrollments Based upon Live Birth and Historical Trend Dates

		Enrollments			
		Kindergarten		First Grade	
Year	N Live Births (Age = 0)	Year	N % of (Age = 5)(LB/Ern)	Year	N % of (Age = 6)(LB/Ern)
1970	728	1975	131 = 17.9%	1976	146 = 20.0%
1971	680	1976	151 = 22.2%	1977	176 = 25.9%
1972	634	1977	125 = 19.7%	1978	137 = 21.6%
1973	631	1978	162 = 25.7%	1979	153 = 24.2%
1974	596	1979	108 = 18.1%	1980	109 = 18.3%
1975	612	1980	120 = 19.6%	1981	135 = 22.0%
			----b		----c
			20.5%		22.0%
		Projected Enrollments[a]			
1976	555	1981	114 (555x.205)	1982	122 (555x.22)
1977	573	1982	117 (573x.205)	1983	126 (573x.22)
1978	563	1983	115 (563x.205)	1984	124 (563x.22)
1979	622	1984	128 (622x.205)	1985	137 (622x.22)
1980	634	1985	130 (634x.205)	1986	140 (634x.22)

a. Estimate
b. 20.5% is average enrollment of 5 year olds in kindergarten compared to live birth data for the six year period.
c. 22% is average enrollment of 6 year olds in first grade compared with live birth data during the six year period.

Table 22:5 reflects an example of the actual enrollments for a school district from a low of 1,792 students in 1970-71 to a high of 2,020 in 1974-75. The table shows a modest decline of pupil enrollment since 1975-76.

Table 22:5 School Districts' Actual Enrollments for 1970/71 - 1980/81

	K	1	2	3	4	5	6	7	8	9	10	11	12	Total
'70-71	0	175	148	174	159	152	168	172	168	132	135	116	93	1792
'71-72	0	167	166	141	170	154	149	174	170	168	135	133	108	1835
'72-73	0	133	155	167	142	172	162	151	174	172	162	130	124	1844
'73-74	113[a]	139	143	161	178	145	165	166	158	182	174	157	120	2001[a]
'74-75	107	156	144	139	168	183	151	169	161	150	178	156	158	2020
'75-76	131	127	142	157	135	174	176	160	177	164	150	169	151	2013
'76-77	151	146	126	146	147	138	176	168	163	176	160	138	156	1991
'77-78	125	176	144	131	143	143	130	178	169	161	172	146	129	1947
'78-79	162	137	152	146	139	141	142	130	173	173	167	164	145	1971
'79-80	108	153	135	158	146	135	150	141	133	167	155	148	152	1881
'80-81	120	109	158	137	158	186	134	151	130	127	163	151	141	1865

[a]Kindergarten program begun in fall, 1973.

Table 22:6, presenting the survival cohort ratios K-12 for the same school district for the years 1976-81, indicates the percent of survival from grade to grade for each year. A mean survival percentage is calculated for each grade.

Table 22:6 Cohort Survival Ratio K-12

Grade	K	1	2	3	4	5	6
1976-77		111.4	99.2	102.8	93.6	102.2	101.1
1977-78		116.5	98.6	103.9	97.9	97.3	94.2
1978-79		109.6	86.4	101.4	106.1	98.6	99.3
1979-80		94.4	98.5	103.9	100	97.1	106.4
1980-81		100.9	103.3	101.5	100	127.4	99.3
average % advancement		106.5	97.2	102.7	99.5	104.5	100

Grade	7	8	9	10	11	12
1976-77	95.4	101.9	99.4	97.6	92	92.3
1977-78	101.1	100.6	98.8	97.7	91.2	93.5
1978-79	100	97.2	102.4	103.7	95.3	99.3
1979-80	99.3	102.3	96.5	89.6	88.6	92.7
1980-81	100.7	92.2	95.5	97.6	97.4	95.3
average % advancement	99.3	98.8	98.5	97.2	92.9	94.6

Explanation: Kindergarten enrollment 1975-76 (see Table 23:5, column 1) was 131. First grade enrollment in 1976-77 was 146 (column 2). Cohort survival index is computed by dividing the annual enrollment by the previous enrollment or 146/131 = 111.4%. The five year history of K-1 progression is computed similarly to yield indices of 116.5%, 109.6%, 94.8%, and 100.9%. The average cohort survival ratio is then computed and applied to current enrollments to project future enrollments. (See Table 22:7 for application of computed indices in projections.)

Table 22:7 is a ten year enrollment projection of grades K-12 including school years 1981-82 through 1990-91. After examining the table, one should be able to gather the appropriate data and replicate the basic structural form for any given school district. It is important to note that in the sample table, the data projections through 1985-86 will be very accurate since the projections are based on live birth data. The enrollment estimates for years 1986-91 however, represent a combination of cohort survival and trend analysis techniques. As such, reasonable caution must be exercised when recommending action based on these projections, and special care taken to increase the reliability of the data on which the assumptions are based.

Table 22:7 Ten Year K-12 Enrollments Projection 1981-82 to 1990-91

	K	1	2	3	4	5	6	7	8	9	10	11	12	Total
'81-82	114	135	106	162	136	165	186	133	149	128	123	151	143	1831
'82-83	117	122	131	109	161	142	165	185	131	147	124	114	143	1791
'83-84	115	126	119	135	108	168	142	164	183	129	143	115	108	1755
'84-85	128	124	122	122	134	113	168	141	162	180	125	133	109	1761
'85-86	130	137	121	125	121	140	113	167	139	160	175	116	126	1770
'86-87	128	136	133	124	120	126	140	112	165	137	156	163	110	1750
'87-88	128	136	132	137	123	125	126	139	111	163	133	145	154	1752
'88-89	128	136	132	136	136	129	125	125	137	109	158	124	137	1712
'89-90	128	136	132	136	135	142	129	124	124	135	106	147	117	1691
'90-91	128	136	132	136	135	141	142	128	123	122	131	98	139	1691

In analyzing all the data, it is essential that the school business administrator monitor live birth rates in all future years to update the projections for additional years beyond the time for which live birth data exist. Proper utilization of the enrollment projections techniques previously outlined will provide adequate and accurate data for planning in most school districts under most conditions.

When the local school district is altered by major social or economic events, cohort survival techniques must be amended to take into account data from other sources. The installation of a major military facility, opening or closing of a factory or the political merger or annexation of governmental units can create conditions that call for more dynamic projection techniques. Within-district projects for individual schools also call for special data-gathering techniques that are discussed later in the section dealing with the facility utilization and school closing.

With most schools in the country facing declining enrollments, the major concerns impacting school districts are: a) the impact of staffing, and b) facilities utilization.

Declining Enrollment: Impact on Personnel

Personnel costs and associated benefits represent, in many instances, 80 percent or more of local school district expenditures. A school district faced with declining enrollment and pressures to contain or reduce costs must review its policies and procedures related to staffing.

One useful technique and one that may be revealing is to chart the past and present staffing ratios with a local school district. By charting, a sectional display will reflect a given level of efficiency. In theory, the two factors should maintain a parallel relationship, i.e., as the student population declines, so would the overall teacher population. Figure 22:1 illustrates this technique.

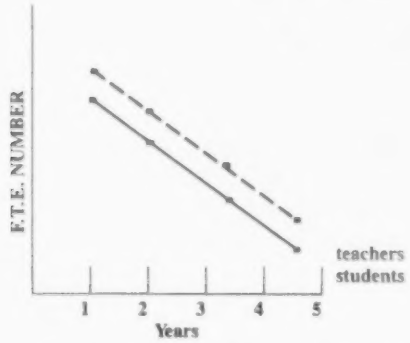

Figure 22:1 **Teacher and Student Population Decline**

In reality, an efficient school district will generally have a one year lag; that is, the employment trend line will correlate with but trail the declining pupil population as illustrated in Figure 22:2:

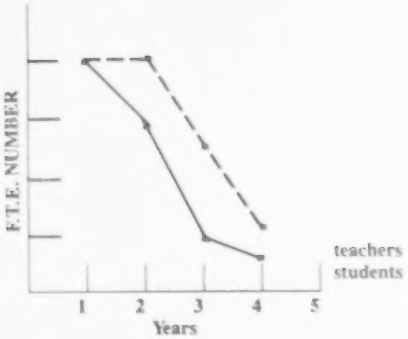

Figure 23:2 **Realistic Employment Trend**

In examining the plotted data, it can be readily determined if the overall teaching staff is being phased out at the same rate of the overall pupil decline. In Figure 22:2 the greatest lag, hence inefficiency, is in year three. Note that this technique is perhaps applicable only to classroom teachers. For example, it may be inappropriate to plot custodians to pupil decline. Generally, custodians are employed on a per-square-foot basis and the lack, or presence, of pupils has little impact. Obviously, at some point the decline of pupils would impact on custodial personnel through the closing of facilities. Note however, that this discussion is centered on full-time equivalent teachers, excluding special education programs and other mandated programs. If special education were to be included in the analysis, with all other teaching personnel in the district, the data might appear as in Figure 22:3:

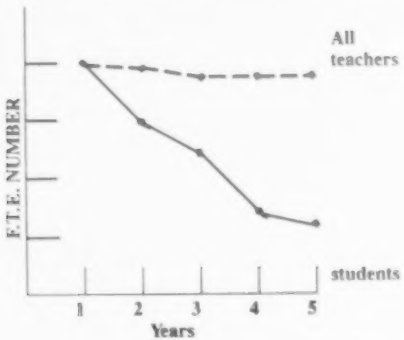

Figure 23:3 **Normal Attrition Display Combined Instructional Personnel (Including Special Education)**

It is important to separate mandated programs such as special education from the charting procedures. If such programs are included, it would confound any rational relationship between pupil decline and teacher employment. Note in Figure 22:4 that it may be possible (if not likely) to see a support group, in this example, teacher aides, increase dramatically. Due to special staffing requirements, the number of teachers can be expected to increase at a proportionately higher level, when compared with teacher/pupil ratios in the rest of the school system. Given this consideration, it is recommended that special programs' staffing analysis be separated from overall school system analysis.

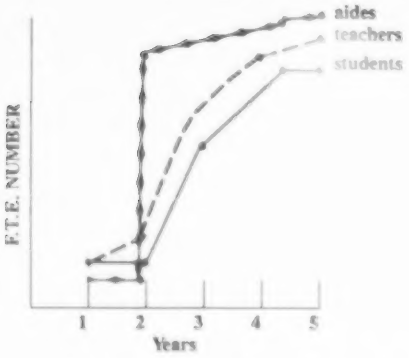

Figure 22:4 Special Program Display

When overlaid, the graphs for teaching personnel (excluding special programs) and special education provide an analysis that would be totally masked were all teachers to be combined in one graph as in Figure 22:5:

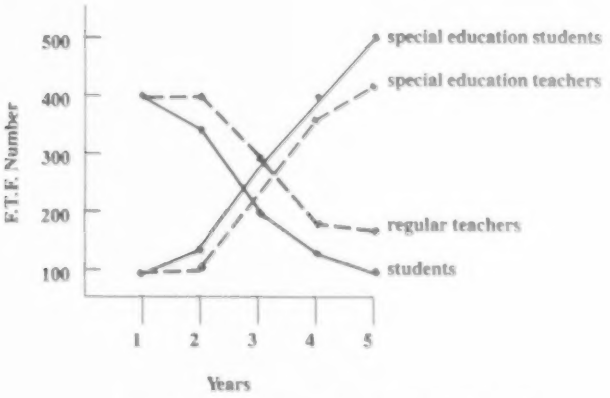

Figure 22:5 Special Program Personnel Within the Overall Staff

While the school business administrator must deal with reduction-in-force, as discussed in another chapter, he or she must also deal with the closing of educational facilities due to declining enrollments. The educational facilities must be used as efficiently as possible. While reduction-in-force and destaffing procedures may generate considerable concern among school district employees and the organizations which represent them, boundary line changes, reassignment of students, transporting students and closing of schools represent actions of a magnitude that can severely impact on the school-community relations in a school district. That these actions might be economical, well conceived, fully supported by

the school board and necessary, makes little difference when such actions are tied to tradition, emotion and political considerations.

After over a decade of dealing with problems related to shrinkage, educators can hardly claim that this is a new concern. The focus in the rest of this chapter is on ways that the school business administrator can provide leadership and direction in the resolution of problems relating to underutilized facilities and excess space.

The Growth of Vacant School Buildings

Total public and non-public school enrollment in the United States declined significantly over the past decade from 51.3 million students in 1970 to 45.8 million students in 1980. The decline during that period can be attributed to reduced enrollment in elementary schools. High school enrollment (grades 9-12) in 1980 was actually higher than in 1970 (14.8 million compared to 14.6 million) but it too had begun to dip from a peak enrollment of over 15.7 million students in 1976.

In 1980, demographers were estimating that elementary school enrollments would bottom out in 1984 at 30 million students with enrollment turning upward slightly later in the decade. For high school enrollments, however, the decline had just begun. Moreover, since high school enrollments in to 1990s are based on students already born, they are much more likely to be accurate over a ten-year period than are elementary enrollment projections which depend, in part, on estimated live births. The news for high school enrollments through the 1980s is one of decline. Current enrollments of 14.8 million high school students are expected to drop to under 12 million by 1990. The number of high school graduates, which reached nearly 3 million in the late 1970s, will decline by approximately 25 percent by the end of the 1980s with no indication of an upturn.[1]

As a result of these declines, many schools have been closed over the past decade. A survey conducted by the United States General Accounting Office (GAO) included twenty three states which compiled data regarding vacant schools and indicated that there were 2,493 vacant schools in nineteen of these states at the beginning of the 1978-79 school year. Only four of the states responding to the survey reported no vacant school buildings. Seventeen states projected additional closing of 1,220 schools during the period from 1979 through 1984. This represented a closing or project closing of approximately five percent of the nearly 85,000 schools in the twenty three states surveyed. Clearly, a five percent closing rate in the face of a 15 percent student enrollment decline during the same period leads to a recognition that school closings do not occur automatically.

While examination of national trends and data is an interesting exercise, it is useful only insofar as it helps to point out that declining enrollment is not a localized phenomenon. Obviously such data are of only limited value in addressing local school concerns. As indicated in Figure 22:3, variations in enrollment occur from state to state, with some states actually increasing in the number of students served. Clearly conditions other than live birth rate, fertility indices and cohort survival assumptions account for such a wide range of differences. It should be just as obvious that within-state differences are subject to even greater fluctuations due to a variety of circumstances and conditions that are described later.

Table 22:2 Public and Private U.S. enrollments, with alternative projections: 1970-1990 (In thousands)

Year (fall)	Total enrollment			Institutions of higher education		Regular elementary and secondary school				Independent nursery school and kindergartens	
						Grades K-8		Grades 9-12			
	Total	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
1970	61,380	52,758	8,622	6,428	2,153	32,577	4,052	13,332	1,311	421	1,016
1971	61,863	53,409	8,454	6,804	2,144	32,265	3,900	13,816	1,300	524	1,110
1972	61,650	53,364	8,286	7,071	2,144	31,831	3,700	13,913	1,300	349	1,142
1973	61,531	53,193	8,338	7,420	2,183	31,353	3,700	14,077	1,300	343	1,155
1974	62,014	53,407	8,607	7,989	2,235	30,921	3,700	14,132	1,300	365	1,372
1975	62,813	54,106	8,707	8,835	2,350	30,487	3,700	14,304	1,300	480	1,357
1976	62,226	53,469	8,757	8,653	2,359	30,006	3,825	14,311	1,342	499	1,231
1977	61,644	52,860	8,805	8,847	2,437	29,336	3,797	14,240	1,343	437	1,228
1978	60,673	51,836	8,837	8,784	2,475	28,328	3,732	14,223	1,353	301	1,277
1979	60,106	51,171	8,935	9,037	2,533	27,885	3,700	13,694	1,400	355	1,302
1980	60,258	51,084	9,174	9,457	2,640	27,678	3,700	13,317	1,400	632	1,434
Intermediate alternative projections											
1981	59,747	50,615	9,132	9,760	2,682	27,356	3,600	12,833	1,400	666	1,450
1982	59,388	50,146	9,242	9,906	2,714	27,161	3,600	12,383	1,400	696	1,528
1983	59,022	49,735	9,287	9,839	2,674	27,023	3,600	12,142	1,400	731	1,613
1984	58,877	49,545	9,332	9,730	2,621	26,905	3,600	12,134	1,400	776	1,711
1985	58,931	49,585	9,346	9,612	2,562	26,951	3,600	12,215	1,400	807	1,784
1986	59,365	49,879	9,486	9,584	2,536	27,359	3,700	12,097	1,400	839	1,850
1987	59,883	50,252	9,631	9,576	2,517	27,987	3,800	11,817	1,400	872	1,914
1988	60,275	50,634	9,641	9,591	2,507	28,722	3,800	11,436	1,400	885	1,934
1989	60,907	51,141	9,766	9,636	2,503	29,447	3,900	11,158	1,400	900	1,963
1990	61,699	51,806	9,893	9,616	2,485	30,244	4,000	11,023	1,400	923	2,008
Low alternative projections											
1981	58,789	49,958	8,831	9,265	2,515	27,356	3,600	12,833	1,400	504	1,316
1982	58,208	49,341	8,867	9,279	2,500	27,161	3,600	12,383	1,400	518	1,367
1983	57,862	48,954	8,908	9,245	2,474	27,023	3,600	12,142	1,400	544	1,434
1984	57,701	48,770	8,931	9,163	2,430	26,905	3,600	12,134	1,400	568	1,501
1985	57,756	48,819	8,937	9,068	2,384	26,951	3,600	12,215	1,400	585	1,553
1986	58,048	49,022	9,026	8,970	2,335	27,359	3,700	12,097	1,400	596	1,591
1987	58,440	49,328	9,112	8,920	2,301	27,987	3,800	11,817	1,400	604	1,611
1988	58,769	49,660	9,109	8,890	2,280	28,722	3,800	11,436	1,400	612	1,629
1989	59,327	50,123	9,204	8,903	2,263	29,447	3,900	11,158	1,400	615	1,641
1990	60,030	50,741	9,289	88,58	2,241	30,244	4,000	11,023	1,400	616	1,648
High alternative projections											
1981	60,106	50,899	9,207	10,025	2,728	27,356	3,600	12,833	1,400	685	1,479
1982	59,992	50,616	9,376	10,339	2,789	27,161	3,600	12,383	1,400	733	1,587
1983	60,188	50,604	9,584	10,633	2,844	27,023	3,600	12,142	1,400	806	1,740
1984	60,554	50,788	9,766	10,869	2,876	26,905	3,600	12,134	1,400	880	1,890
1985	61,141	51,214	9,927	11,096	2,903	26,951	3,600	12,215	1,400	952	2,024
1986	61,971	51,788	10,183	11,312	2,927	27,359	3,700	12,097	1,400	1,020	2,156
1987	62,839	52,425	10,414	11,543	2,954	27,987	3,800	11,817	1,400	1,078	2,260
1988	63,627	53,088	10,539	11,802	2,994	28,722	3,800	11,436	1,400	1,128	2,345
1989	64,686	53,893	10,793	12,103	3,040	29,447	3,900	11,158	1,400	1,185	2,453
1990	65,846	54,836	11,010	12,336	3,073	30,244	4,000	11,023	1,400	1,233	2,537

NOTE: Because of rounding, details may not add to totals.

The Education Almanac (1984).
Goodman, L.V. ed.

Declining Enrollments and Local School Facility Utilization

Major changes in school enrollments at the local district level have always been cause for a flurry of activity. During periods of growth, local school districts sought creative ways to expand the capacity of school facilities while construction lagged two to five years behind the appearance of the students. Various solutions were found to deal with excess student numbers including split-shift scheduling, relocatable (temporary) classroom units, rented church facilities and various year-round school options. In the final analysis, however, the last solution for most school systems was the construction of new educational facilities. The reverse side of the growth curve calls for equally creative interim and long-term planning. Unfortunately, however, the set of variables that exist in any community is sufficiently unique to render generalized models for dealing with decline inappropriate.

What are the factors then, that make a difference in planning for declining enrollment in a particular school district? How can school districts plan effectively to assure the highest quality educational programs given the resources available? How and when does closing a school become necessary? What is the best way to close a school? What can or should be done with unused facilities? What role does the school business administrator play in this entire process? The answers are difficult and complex, and suggestions and guidelines are presented in the following sections.

Factors in Planning for Declining Enrollment

One of the most obvious factors that helps determine whether school systems should engage in serious planning for enrollment decline is the status of the school system's enrollment. Procedures for accurately projecting enrollment are discussed earlier in this chapter. Special attention should be paid, however, to other factors that might render standard projection techniques inaccurate. Major housing developments, trailer court openings or closings, military or industrial impact, zoning changes, in and out migration and the opening or closing of private schools can dramatically influence projections for individual schools or for the school district as a whole. Care must also be exercised to make sure that changes in state or local policies regarding school entry age or grade to grade promotion (e.g., competency examinations) are accounted for in the analysis and use of cohort survival projections.

The size and number of schools in a local school district are also factors which shape the developmental planning strategies in any school district as well as the options that may be possible at the end of the process. With nearly seventy-five percent of the nation's school districts served by a single high school, the elimination of the high school (unless school districts are being consolidated or merged) is an unlikely possibility for such districts. School districts that serve small numbers of students at remote locations cannot seriously consider merging of students from two or more schools. Two considerations that are important in early planning for optimal use of school facilities are: 1) the accuracy of enrollment data, and 2) size and nature of the school district.

Enrollment Information

Glen Earthman has described several techniques that may predict enrollments with high degrees of accuracy. Among those he suggests:

1. Regression models that take into account variables associated with enrollment changes themselves.
2. Geo-referenced models that use land saturation and land use projections.
3. Computer based, geo-referenced management information system models that produce student enrollment projections as well as other reports.
4. High altitude infrared photography coupled with land use, land use classifications and identification of population centers to identify growth trends.[4]

While most of these techniques were developed for analyzing growth in larger school districts serving metropolitan areas, they do have potential application for all school districts. They depend on the use of computers that can complete the mathematical computations using various assumptions. School business administrators should become aware of the advanced technology available that can confirm or improve the accuracy of local projections. Generally, projections that are consistently within two percent of the actual enrollments are considered excellent. When estimates vary from actual enrollment by as much as five percent, procedures should be seriously reviewed for their adequacy and appropriateness.

Just as there are great variations in enrollment from state to state and district to district, the effects of declining enrollment are not felt evenly across schools within a school district. As cities grow older, there is a movement of students from the center of the city to the suburbs. This is generally true in medium sized communities as well as urban areas. Some schools are crowded while others are not. Generally, boundary line changes which are usually employed in an attempt to balance enrollments provide only temporary relief to the problem of declining enrollment of the magnitude seen in most school districts.

Size and Nature of School District

Large and small districts alike face problems related to declining enrollment. In general, larger districts have greater flexibility and options to choose in an effort to retain program quality while reducing costs.

The larger school district may be faced with reduction of elective offerings in certain areas, consolidating school enrollments or reduction of highly specialized services in a first round of cuts, whereas the small school system may be faced with the elimination of an entire set of offerings at the high school (in the case of a one-teacher department). The following examples illustrate the relative magnitude of the program.

EXAMPLE 1—The enrollment of Midtown High School will drop from 2,100 students to 1,500 students over the period from 1982-86. The school board has directed a planned staff reduction of twenty faculty members from its current 103 staffing positions.

The enrollment decline in the eighty-four sections of English offered will reduce average class size from twenty five to just over eighteen. By returning class size to twenty five, only sixty sections of English will be required, a savings of twenty-four sections or 4.8 faculty positions. By effecting similar adjustments to retain

class size at 1982 levels, a comparable number of sections (and positions) can be eliminated in social studies, science and mathematics with limited reduction in elective offerings or special courses offered in those departments. Similarly other departments such as art, foreign language and business education have four or more faculty assigned, leading to a planned reduction in staffing without dramatically reducing the variety or quality of offerings available at the school.

EXAMPLE 2—The enrollment at Rural Springs will drop from 210 students to 150 students during the same period. The school board has directed that the staff of fourteen teachers be reduced by two over the four-year period. The choices available to the superintendent are not simple. Elimination of one English teacher results in loss of library services, foreign language or electives in drama and journalism as well since the two English teachers also provide additional services or staff elective offerings through their multiple certification. The same choices exist in science, mathematics and social studies. Since the school has but two sections of each class (thirty five to sixty students per grade level), no economies are realized by merging of sections. The other six faculty in the school are single specialists, the only faculty member assigned to their respective departments (music, vocational agriculture, physical education, counselor/home economics, business education, industrial arts) whose loss would represent a significant lessening of the program offerings available in this small (but not unusual) high school.

Discussion. The dilemma and impact of the solution on the smaller school is immediately evident. At the outset, cost per pupil in the smaller school was higher and offerings more restricted than in the larger high school. While reductions in staff undoubtedly would affect the quality of programs at both schools, the comparable percentage reduction in staff would fall more heavily on the smaller school.

Similar problems exist in effecting the economics related to the use of facilities. The larger school system, serving a fairly good-sized community, may well consider consolidating school facilities, phasing out buildings and moving students a short distance to other underutilized facilities. Many small school districts (especially those in rural areas) have all their students in one building. The options for dealing with declining enrollment simply do not include school closings. The location of elementary schools in rural areas likewise restricts the options available to the small district which, due to increasing transportation costs, simply cannot redistribute students for economic reasons.

These factors then weigh heavily in the determination of what choices are available. Sometimes the options are severely restricted and bolder measures such as reorganization, shared services and partial leasing of unused facilities may need to be considered.

Planning for Quality

Once accurate enrollment data are assembled and the unique school system constraints identified, plans must be developed that will address the school district's fiscal concerns within a framework that assures the greatest quality of programs and services possible. The determination of what constitutes quality in any school system is an issue which must involve the public, particularly if the recommendations for cost containment or reduction might include school closings. While the responsibility for planning, formal adoption and implementation of any

plan rests with the school board, extensive participation over an extended period of time by all segments of the community has proven to be a prerequisite for success of the plan.

The Educational Facilities Laboratory identified several key points as important in orchestrating the planning process including:

- Allow time—at least a year—from start to accepted plan.
- Provide plenty of opportunity for communicating the facts, the options and the plan to the community, and for getting questions raised and answered and fears allayed.
- Make sure the basic demographic and cost data are reliable, and find simple, clear ways of communicating them.
- Sometimes professional consultants should be retained to develop data, undertake public opinion polls and provide an objective review of alternatives.
- Start the process before the first school is closed, before the community is fragmented.
- Task forces set up to deal with special areas can be useful like legal constraints, operating costs and human services needed in the community and public communications.
- Set realistic but firm dates and schedules.
- Beyond the development of the plan are implementation stages; plan for the orderly completion and retirement of those responsible for the planning and the transfer of responsibilities to those who must make it work.[5]

Although committees will vary in size, structure and mission, it is critical that the members of the committee understand clearly that their role is advisory. Committee members should represent all segments of the community and have sufficient guidelines and resources to permit them to discharge their assignment. Perhaps the most valuable accomplishment of such a committee is the articulation of community priorities and values to be incorporated in any proposal.

The importance of involving a broad segment of the community in developing priorities for any proposed modification of the school district's programs and services cannot be overemphasized. The priorities, once established, become the criteria against which proposed changes are measured. Besides reducing chance as a determiner of the plan's success, it provides a rationale for making choices from among the multitude of options. Whether a community can reach an agreement on what constitutes quality, and thereby can arrive at some consensus as to criteria that should be employed in making decisions about the necessity or advisability of closing facilities, is not certain. What appears to be certain, however, is that citizens are unwilling to review quality considerations if they believe the decision has already been made to close the school their children attend.

Quality and cost are interrelated variables in the decision-making arena that surrounds the operation of schools. Sometimes the level of expenditure is the dependent variable; in other cases it is not. Whenever possible it is clearly preferable to solicit broad-based community involvement in discussions surrounding these two concerns. Where financial constraints dictate decision making which impacts directly on the quality of education, the community should be involved in developing the priorities for allocation of resources. Before discussing which school to close, the thoughtful administrator should determine whether the community pri-

orities include closing any school in spite of the fact that the consequence of operating all schools may mean that programs and services will suffer. Only after determining that a school closing(s) represents a logical and reasonable way of reducing expenditures (as opposed to increasing teacher-pupil ratios or reducing transportation services, electives, extracurricular programs and so on), should the school system seriously consider which facilities should be closed.

School Closing as an Option

If the local school district has more than one facility and the logistics (distance between schools, geographical considerations and so on) do not make in-district consolidation of enrollments impossible, it is likely that school districts with declining enrollments of 10 percent or more over a three to five-year period will at least consider the possibility of reducing the number of facilities operated.

What are the data requirements necessary to evaluate this option? What information will the community, the school board and the professional staff require? Who will generate the information? In what form should it be gathered? What are the educational and financial issues that must be resolved?

The school business administrator will play a major role in this phase of the deliberations. The person who has the responsibility for detailing and analyzing expenditure patterns in the school district has direct access to most, if not all, of the information required to address these questions.

Enrollment Data Reports

One of the first steps is the development of enrollment data reports and projections for each school in the system. This is generally an ongoing subset of the school district's overall enrollment data base. With caution, survival cohort techniques can be employed to project enrollments for each facility in the school district. Given the variations in zoning, development and socio-economic characteristics of any community, it is not difficult to recognize that certain changes that may have a marginal impact on overall school district enrollment can have significant impact on individual school enrollment. Urban redevelopment, low income housing, trailer court development and rezoning for industrial land use can greatly impact the enrollment planning for a single school. Private school openings and closings can, likewise, impact certain areas of a community although their impact tends to be distributed across a wider geographical area and a longer period of time. Special programs or services e.g., full day care for pre-schoolers when the school district provides non-mandatory half time kindergarten, can cause enrollment fluctuations that must be addressed.

Enrollment projection techniques by school attendence areas require constant attention to detail. The building principal and school groups can be excellent sources of information. Mechanisms must be established, however, which assure a conduit for this information as well as provisions for verification of accuracy.

School Board Policy

While data collection and cost analysis are extremely important activities in generating information for review by community advisory committees and the

school board, it is preferable to have a thoughtfully developed school board policy which delineates conditions for closing review and action before any study. If educational values and priorities have been stated in advance and if conditions have been specified which will trigger automatic review of closing a school as an option, the school business administrator will find the task more manageable.

Before embarking on a study it is imperative that the school board and administration "(1) review the policies of the district which may have a bearing on closing, and (2) approve the criteria for judging which school or schools will be closed."[6]

Regarding school policies that should be reviewed, several questions that must be addressed by the central office personnel and the school board via policy statements include:

- The use of paid consultants and the limitations of what the consultants are to address. Regardless of any policy the consultants may act only in an advisory capacity as the final decisions are to be made only by the board of education.

- The use of citizen advisory committees and their limitations must be addressed. What is the composition of the committee to be? What policies and guidelines directing such committees need to be addressed in advance of such committees?

- Are the board policies covering citizen input at the board meetings adequate in order to balance the interests of the public and the interests of decision making by the board?

- Policies must be written to address the amount, type and structure of the involvement by classroom teachers, the union, the community and so on.

- Policies must be developed that address beforehand such issues as class size, attendance areas, redistricting, transportation and school and grade reorganization before actual schools are selected for closing.

Data Analysis

Concurrent with a careful review of board policies and thoughtful planning for citizen participation in the decision to close schools or select some other cost reduction strategy, the process for collecting and summarizing appropriate data should be accelerated.

The authors have grouped informational needs that must be addressed into the following categories:

District Finance

State and local revenue projections.

Past expenditure patterns broken down into such areas as personnel, facilities, instructional costs.

Per pupil historical costs and per pupil projections.

Bonded indebtedness for each facility and entire district.

School transportation financial aid.

Student Transportation

Requirements of local and state policies, rules, regulations and statutes.

Student data projections as to new bus routings and schedules based on different scenarios.

Pupil Enrollment Projections

Projections by year, grade and school for five to ten years.

Individual Facility Information

Building capacities and utilization ratios.

Local and state building codes for the health, safety and welfare of pupils.

State rules and regulations for facility standards.

Accreditation standards.

Operating and maintenance costs for the facility as well as on a per pupil and per square foot basis.

Structural condition of the building with projections for capital improvements.

Personnel Projections

Data regarding current assignments and projected scenarios for moving staff.

Special education program projections.

Overall district staffing patterns with different scenario projections.

State statutory guidelines, board policies and contract language regarding the reduction-in-force projections.

Normally expected retirement projections.

Early retirement projections.

Others have addressed such issues as funding, cost-benefit analysis (including capital outlay), heat, electricity, insurance, custodial costs, geographic location, academic excellence, capacity/enrollment, facility condition and re-cycle ability as key factors in determining the feasibility of closing a facility.[7]

When school closings become necessary, it is not the same as when school closings are possible. It is the responsibility of the school business administrator to prepare the data on which rational and informed decisions can be made. Additionally, he or she has the responsibility to facilitate the decision-making process selected by the school board. Regardless of the final decision, the school business administrator should be prepared to make recommendations and take whatever actions necessary to insure the most effective utilization of available resources given the policy decision of the school board.

How To Close a School

The sections which precede this have attempted to suggest three critical ingredients to the process of school closings: planning, information and participation.

Under optimal conditions the school district will have involved the community in the important process of evaluating community needs and setting priorities for making decisions about the expenditure of scarce resources. Through careful planning, these decisions include: needs assessment, examination of options and alternatives, priority setting and decision-making recommendations to the school board. Decisions should be based on appropriate, adequate and accurate information provided to the community by school district personnel.

When a school board has made a decision to close one or more schools and has in hand the criteria for determining which schools (size, cost benefit and a variety

of factors consistent with the expressed priorities of the community advisory committee), actions must be taken to carry out the plan. It is recommended that the board develop a plan consistent with the guidelines of the task force or committee. The school board should announce its plan and schedule public hearings that permit opponents a chance to be heard and to vent their opposition and hostility.

Every attempt should be made to generate support from other non-involved groups, especially members of the advisory committee, to confirm that the action plan prepared by the board is consistent with the guidelines developed by the committee. Use of outside consultants at this point may help to deflect some of the animosity that is bound to be present. Taxpayer groups and others supporting cost containment should be involved.

The role of the school business administrator in this activity will be to present data as candidly as possible without entering into policy discussions. Good management dictates that once the board of education has reached consensus and taken board action, the administration should implement the board's directive in a timely fashion.

Disposition of the faculty, which will already have been reviewed as a part of the analysis of all facilities, should be confirmed and transfer of personnel, equipment and materials planned and executed. Finally, the facility should be vacated and secured for further use. It is at this stage that the school business administrator carries the primary responsibility for execution. Until this time, his or her role has been one of data gathering, analysis and providing support services and information to the groups involved in deliberations.

Deciding What To Do With Facilities

As a part of the earlier process of evaluating facilities, the school district will explore alternative uses of vacated facilities. Obviously, later use of these facilities will vary greatly depending on several factors including age and condition, zoning, ownership and probable future need by the school district. Among the most common dispositions are:

Conversion. The facility can be converted for a variety of purposes including: a) an alternative school; b) recreation facility; c) adult education programs; d) municipal services; e) vocational educational centers; f) pre-school programs; g) media centers; h) warehouse; i) housing for central office personnel; j) social service center; and k) senior citizen center.

Sale. The facility may be sold to: a) other governmental agencies; b) housing developers; c) businesses; d) private industry; e) community groups; f) colleges and universities; and g) intermediate unit service agencies.

Demolition. In some cases school facilities are (because of their condition, age, location or other factors) of little value to the school district or anyone else. For safety reasons, salvage or enhancement of land value, demolition may be an appropriate disposition.

Mothballing. This is a term used to describe the procedures for securing a facility for potential future use. In some areas closed facilities may be needed for future purposes (including their original purpose) within a five- to ten-year period. It makes little sense to dispose of a serviceable facility only to discover that a new facility must be acquired in a short period of time to serve a revitalized area of the

community, a reversed population migration or an organizational change. Special care must be taken to protect the financial investment of the community in "reserve" facilities, e.g., security, maintenance, repairs and insurance.

Besides the four major categories listed previously several options may be possible. Leasing the facility or partial leasing and joint occupancy (using part of the facility for public school purposes and leasing or renting portions to other agencies or clients) may be possible.

According to various reports, nearly fifty percent of all vacated facilities are mothballed and ownership retained by the school district. Whether by choice or condition this action requires continuing attention of the school business administrator to protect the school district's property against vandalism, weather and general deterioration. Besides protection of the investment, the school business administrator must be aware of the concerns of property owners in the neighborhood should the facility and grounds be neglected or allowed to deteriorate.

According to the American Association of School Administrators (AASA), the school board must consider at least four questions before making a decision about the disposition of unneeded facilities. They are:

1. Should the vacant classrooms or buildings be held as inventory against the chance that future rising enrollments will require their use?

2. To what extent should the district's own needs for additional space be considered before disposal?

3. Is the district's need for income from its real estate so urgent as to justify sale, rental, leasing and joint leasing?

4. Is the district willing to turn over its vacant space (or portions of it) to public agencies without gain for itself, simply in public interest?*

Summary

The school business administrator plays a key role in every stage of the process leading up to the decision to close a school. The more important role is carrying out the mandate. At the early stages of school board consideration of school closing(s) as a possible option to contain budget increases, data provided by the school business administrator as a part of his or her routine responsibility is essential. Historical enrollment data and projections, school building enrollments, pupil-teacher ratios and other regularly reported information trigger the initial awareness and concerns of board members to the problems associated with enrollment decline. With most state funding formulas, which are influenced by size of enrollments and an increasing resistance to increased expenditures for all governmental services, school boards annually confront difficult choices in allocating resources.

An alert superintendent and school board will recognize that the decision to close a school cannot be taken lightly and must involve substantial community participation. This will increase the awareness of the difficult choices facing

school board members in the establishment of priorities and determination of what represents quality education.

Concurrently, the board will recognize that both they and any advisory committee must establish expenditure priorities that include the feasibility of closing facilities. This will require a substantial data base for deliberations. Again, the school business official will be called on to generate and synthesize information, explore and project the impact and consequence of facility disposition, interpret state and federal policy, procedures and guidelines and prepare cost analyses of various scenarios relevant to the range of options under consideration.

Cost analyses can be developed for any school district. Allen has suggested that such analyses can be developed for district-wide scenarios as well as individual schools. For each scenario, detailed data for five school years must be projected along the following scheme[9]:

Key Assumptions
- ADA Projections
- Enrollment Decline %
- Student: Regular Teacher Ratio
- Number of Regular Teachers
- Student: Special Teachers Ratio
- Student: Administrator Ratio
- Number of Administrators

Salary Costs
- Teachers Salaries
- Administrators' Salaries
- Special Teachers' Salaries
- Total Salary Costs
- Employee Benefits
- Total Salaries and Benefits

Other Variable Costs
- Books and Supplies
- Grounds and Buildings
- Transportation
- Food Service
- Total Other Variable Costs

Fixed Costs
- Utilities (Fixed Portion)
- Grounds and Buildings (Fixed Portions)
- Other Fixed Costs
- Total Fixed Costs

Total District-Wide Costs

Costs Per ADA

For each possibility under consideration for each site, detailed district-wide expenses should be computed for the following:

- Total Variable Costs
- Total Fixed Costs

Deferred Maintenance
Mothball Costs
Net Lease Revenue
Net Sales Revenue
Total Costs

Once the advisory committee and the school board have concluded that school closing is a viable and preferred action, the school business administrator will be expected to prepare and present demographic and financial impact projections to the community at public hearings and through a variety of media sources. At this point the school business administrator must be certain that his or her data base is accurate and adequate to respond to all questions from persons opposed to closing a specific school. The school business administrator must inspire confidence and credibility in the information presented.

Finally, when the school board has determined that specific schools will be closed, the school business administrator must be prepared with information that details the options and financial impact of several disposition schemes. His or her knowledge of title transfer, leasing, zoning, property sale, lease back agreements, and other real estate transactions will be critical. He or she must be prepared to inventory, redistribute, warehouse or dispose of school district property according to state statute, board policy and preference. If he or she has responsibility for personnel functions, he or she will be expected to move quickly to effect personnel transfers and implement reduction-in-force policies or other personnel procedures without disrupting morale of professional and classified personnel. He or she will support the continued operation of the school to be closed, while directing an orderly transition of an active facility to whatever disposition has been determined.

Under certain conditions, the school business administrator will be expected to "retire" the facility from active service. The school business administrator must also take whatever action is necessary to protect the interest of the school district and the community.

As indicated earlier, the school business administrator is a key person in managing decline in the school district. His or her knowledge, skills, disposition and credibility will contribute greatly to the determination on whether the challenge is met effectively or with great trauma.

Notes

1. *Declining Enrollments—Closing Schools: Problems and Solutions*, (Arlington, VA: American Association of School Administrators, 1981) 7.

2. Portions of this chapter regarding enrollment projections have been adapted from various educational feasibility studies by E.W. Nicholson and R.C. Wood (West Lafayette, IN: Purdue University).

3. National Center for Educational Statistics, *Projections of Educational Statistics to 1988-89* (Washington, D.C.: GPO); and Western Interstate Commission for Higher Education, *High School Graduates: Projections from the Fifty States* (Boulder CO: WICHE).

4. G.I. Earthman, "Alternative Methods of Projecting Student Enrollments" (Paper presented at the meeting of the Virginia Education Research Association, Roanoke VA, October, 1980).

5. Educational Facilities Laboratories, *Surplus School Space: Options & Opportunities* (New York: 1976) 60.

6. American Association of School Administrators, *Declining Enrollment—Closing Schools* (Arlington, VA: 1981), 88.

7. K.E. Eisenberger and W.F. Keough, *Declining Enrollments: What To Do* (Arlington, VA: American Association of School Administrators, 1974), 35-38.

8. Ibid.

9. T.W. Allen, "Analytical Tools to Ease the Burden of School Closure Decisions," *School Business Affairs*, 50 (January, 1984), 26, 28.